

DRINKING WATER SRF PLANNING REQUIREMENTS

INTER-DISCIPLINARY ENVIRONMENTAL REVIEW

Please e-mail the following items to the State Revolving Fund Loan Program for our coordination of a mandatory, 30-day inter-disciplinary environmental review (IER) of the proposed project:

- An electronic (.JPG or .PDF), 8½” x 11” color figure based on the appropriate portion of the most current USGS 7.5-Minute topographic quadrangle map showing the location of the planning area
- An electronic (.JPG or .PDF), 8½” x 11” color figure based on the appropriate portion of the most current USGS 7.5-Minute topographic quadrangle map showing the location of the proposed project
- A clear, concise project description (.DOC)

If electronic versions of the figures are unavailable in .JPG or .PDF format, please send hard copies by mail, and we can scan the documents here.

The State Revolving Fund Loan Program will forward the submittals to the following agencies and solicit their input:

TDEC, Division of Air Pollution Control	Tennessee Department of Agriculture
TDEC, Division of Archaeology	Tennessee Department of Economic and Community Development
TDEC, Division of Groundwater Protection	Tennessee Department of Transportation
TDEC, Division of Natural Areas	Tennessee Historical Commission
TDEC, Division of Solid Waste Management	Tennessee Wildlife Resources Agency
TDEC, Division of Water Pollution Control	United States Army Corps of Engineers
TDEC, Division of Water Supply	United States Fish and Wildlife Service

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RECOMMENDED FACILITIES PLAN OUTLINE –DWSRF

The following outline is a suggested outline for the presentation of the required information for a Drinking Water State Revolving Fund Facilities Plan/planning document. Some of the information requested may not be applicable for certain projects.

1.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

- 1.1 Statement of the Problem
- 1.2 Summary of the Alternative Solutions Considered
- 1.3 Recommended Solution

2.0 PURPOSE AND NEED

- 2.1 Study Purpose
- 2.2 Need for the Project

3.0 GENERAL INFORMATION

- 3.1 Existing Facilities and Area Served
- 3.2 Optimum Performance Available with the Existing Facilities/Operational Problems
- 3.3 Existing Distribution System (indicate mains, storage facilities, and pumping stations)
- 3.4 Potential for Serving Additional Areas

4.0 FUTURE CONDITIONS

- 4.1 Planning Period (20 years)
- 4.2 Land Use Projections
- 4.3 Population Forecast
- 4.4 Storage Capacities and Losses in the System
- 4.5 Fire Flow Requirements

5.0 DEVELOPMENT OF ALTERNATIVES

- 5.1 No-Action Alternative
- 5.2 Minimum of three viable alternatives compared for cost effectiveness, environmental impacts, and feasibility
- 5.3 Chosen Alternative

6.0 SELECTED PLAN DESCRIPTION

- 6.1 Proposed Treatment Process
 - 6.1.1 Capacities, retention times, loadings, filter area, filtration rate, and backwash rate
- 6.2 Water Source and Demand Requirements
 - 6.2.1 Stream Flow Data
 - 6.2.2 Existing or potential groundwater sources
- 6.3 Effects to or from any Wastewater Treatment Facility
- 6.4 Site Selection (sites considered and the chosen site)
- 6.5 Soil Conditions (for water line placement and foundations)
- 6.6 Public Involvement Public Meeting

7.0 PROJECT COSTS

- 7.1 Estimated Construction Costs and Overall Project Costs
- 7.2 Proposed Financing
- 7.3 Projected Operating Costs and Water Rate Structure

8.0 ENVIRONMENTAL IMPACTS

- 8.1 Planning Area and Project Area (indicated on USGS quad map)
- 8.2 Project Specific Impacts

9.0 ENVIRONMENTAL JUSTICE CONCERNS

- 9.1 Identification of Minority and Low-Income Populations in Project Area
- 9.2 Evaluation of Disproportionate Risks to Identified EJ Populations
- 9.3 Identification of Public Participation Opportunities for Identified EJ Populations
- 9.4 Evaluation of Environmental/Health Risks among Identified EJ Populations that may be Exacerbated by Proper Construction and Operation of the Selected Alternative

Maps and Figures

APPENDICES (supporting documentation as appropriate)

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FACILITIES PLANS

A Facilities Plan must demonstrate the need for a proposed action, evaluate viable alternatives, and select the most cost-effective, implementable, and environmentally sound solution that will meet the public needs over the design life of the facility. A Facilities Plan must include an evaluation of the current and future population of the facilities planning area and their water needs. It must also present a comprehensive evaluation of the current environment in the planning and project areas, potential impacts to the environment caused by the construction of the proposed project, and actions necessary to prevent potential negative environmental impacts. A Facilities Plan must also demonstrate and document public participation in the decision-making process. Four copies of a Facilities Plan must be presented to the State Revolving Fund Loan Program for our timely completion of required technical and environmental reviews prior to recommending the Drinking Water State Revolving Fund (SRF) loan award to the Tennessee Local Development Authority.

A Facilities Plan should contain an Executive Summary, detailed descriptions of the proposed project's purpose and need, existing and future conditions; development of alternatives; an evaluation of the principal alternative(s); and the selected plan. The text of a Facilities Plan should be augmented with a topographic map of the planning and project areas and any other maps and figures necessary to graphically convey and support the technical and environmental information presented and the alternative(s) selected. Conclusions and recommendations provided in the Facilities Plan must be supported by the technical and environmental information presented therein.

The following summarizes the technical and environment information that is generally required in a Facilities Plan.

Technical Information Requirements

- An executive summary of the Facilities Plan including conclusions and recommendations
- A discussion of the purpose and need for the **proposed project**. Only projects that will benefit public health and/or achieve or maintain regulatory compliance are eligible for funding. **Growth-type projects are ineligible for funding.**
- A discussion of general information, including detailed descriptions of existing treatment and distribution systems and the area served, supplemented by appropriate maps and figures showing all water treatment plants, mains, surface water intake and/or raw water supply wells, and pump stations in the project planning area; system design capacities and existing flows; the age(s) and reliability of existing equipment and respective remaining useful lives; distribution system performance with emphasis on any distribution problems relative to undersized components; treatment plant performance **compared to applicable regulations and the facility's permit**; an evaluation of the capacity and quality of the existing water source and its ability to meet existing and projected water needs; the achievable optimum performance level possible with the existing facilities; the need for additional operating controls and facilities to improve operations, and possible system or process modifications to achieve optimum performance; and a discussion of the system's operation and maintenance (O&M) program, its effectiveness, and possible modifications. If applicable, copies of existing operating permits and operations and maintenance manuals should be included in the Appendix.
- A discussion of the planning period, including current and projected populations, land use, and water needs for the subsequent 20 years, including storage capacities, losses in the system, and the potential to serve additional areas should be included. A discussion of fire protection flow requirements needs and measures should be included in the planning document as well. An assessment of potential environmental justice (EJ) concerns, including a description of any minority/low-income populations located within the planning area, a discussion of the potential for the selected alternative to present a disproportionate risk to identified EJ populations, identification of any current environmental or health risks that will be exacerbated by implementation of the selected alternative, and identification of mitigative actions necessary to eliminate any disproportionate risks to identified EJ communities.

The following table summarizing the percent of the population served for the 20-year planning period for the municipality, the planning area excluding the municipality, and the total planning area must also be completed and inserted into the text. Please include this table in the planning document, as it is a useful summary tool. A discussion of the source and reasonableness of the population and flow projections should supplement the table.

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EXISTING AND PROJECTED FACILITY CONDITIONS

<u>Population</u>	<u>Existing (200?)</u>	<u>Projected (20?? 20</u> <u>yrs later)</u>
City of ????	#	#
Percent Served	%	%
Service Area Excluding City of ????	#	#
Percent Served	%	%
Total Planning Area	#	#
Percent Served	%	%
<u>Flows in gallons per day (gpd)</u>		
Residential	#	#
Commercial	#	#
Industrial	#	#
Loss	#	#
Total Flows	#	#

- **Development of alternatives**, including a "No-action" alternative discussion, and a detailed description of a minimum of three viable alternatives. The alternatives evaluation must include an engineering evaluation, including an assessment of whether adequate capacity will be provided for projected needs during the 20-year planning period, reliability, revenue generating applications (if applicable), reduction or recovery of energy (if applicable), process complexity; and filter backwash disposal alternatives (if applicable to the proposed project), with appropriate consideration of the size and location of the project, and compliance with regulatory requirements regarding backwash sludge treatment and/or disposal methods. The evaluation of alternatives must also include a present-worth comparison of cost-effectiveness over the 20-year planning period, which considers capital costs, useful life, planned staging of construction (if applicable), salvage value, replacement costs, O&M costs, and interest during construction; development of the alternatives including consideration of environmental impacts, engineering feasibility, and implementability (inter-municipal agreements, regulatory requirements, and mitigation requirements); presentation of sound reasons for rejecting alternatives not considered worthy of further analysis; and identification of the chosen alternative(s).
- A **discussion of relevant design parameters** for all major system components of the selected alternative(s) should be presented. Selected alternative(s) should be evaluated with respect to compliance with the *State of Tennessee's Community Public Water Systems Design Criteria*.
- A schedule showing appropriate planning, design, and construction milestone dates
- **Documentation of public involvement**, including a complete copy of the Public Meeting transcript, a copy of published advertisement and a Notarized Publisher's Affidavit as proof of the advertisement publication. The public involvement documentation must demonstrate the opportunity for public awareness of the planned project, including any special measures taken to ensure awareness of identified environmental justice communities. The public involvement documentation must also demonstrate that the public was provided a complete description of the project, the project schedule, an assessment of short-term impact verses long-term benefits, and a description of current user fees and the amount of any required increase(s) to the current user fees resulting from the repayment of the Drinking Water State Revolving Fund loan and funding of depreciation. Documentation need not be submitted concurrently with the planning document; however, the planning document will not be approved until the public involvement requirement is satisfied.
- Draft copies of all Inter-Municipal Agreements (IMAs) required to implement the proposed project and Authorizing Resolutions from the municipalities obligated in the IMAs
- A discussion of the proposed financing for planning, design, and construction of the selected alternative(s), anticipated system operations and maintenance costs upon completion of the proposed project, the water rate

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structure, and any increases in water rates necessary to support the post-construction funding of debt service, depreciation, and operations and maintenance costs

- 10 color copies and an electronic copy (.jpg or .pdf format) of the of the 8½” x 11” topographic map of the planning and project areas and any other maps and figures (8½” x 11”) necessary to graphically convey and support the technical and environmental information presented and the alternative(s) selected

Environmental Information Requirements

- Present and future land use and growth trends in the planning and project areas
- Topography in the planning and project areas
- Descriptions of the hydrology and hydrogeology in the planning and project areas, including a description of the planning area’s waterbodies, aquifers and surface and ground water quantity, quality, and users.
- Descriptions of the geology in the planning and project areas, including a description of major features in the project area and physiographic provinces
- Descriptions of soils in the planning and project areas, including distributions, their respective limitations, and NRCS Soil Maps (if possible)
- Descriptions of historical and archeological features in the planning and project areas
- Identification of listed threatened, endangered, or otherwise protected flora and fauna species in the planning and project areas, particularly in the immediate vicinity of any portion of the proposed project and downstream from a proposed discharge point
- A discussion of the community’s wastewater treatment system, including the location(s) of points of wastewater discharge, the potential for the proposed project to be impacted by treated wastewater effluent discharges, and possible actions to prevent impacts
- A description of mitigative actions potentially necessitated by the proposed project to reduce noise, dust, odor, etc. from construction activities, and to avoid erosion and sedimentation of nearby streams and water bodies during construction activities (silt fence, straw bales, holding ponds, temporary and permanent revegetation, etc.)
- A discussion of ambient air quality in the planning and project areas, the potential impacts to air quality resulting from the proposed project, and possible actions to prevent impacts
- A discussion of the potential for the proposed project to disturb, damage, or adversely effect historical or archaeological sites or prime and/or unique agricultural land during construction activities and possible actions to prevent impacts
- Identification of any designated Wild or Scenic Rivers in the planning and project areas, the potential for impacts resulting from construction of the proposed project, and possible actions to prevent potential impacts
- A discussion of the potential for the proposed project to disturb, damage, or adversely effect fish and wildlife and mitigative actions to prevent potential impacts
- The locations and descriptions of jurisdictional wetlands in the project area and a discussion of the potential for the proposed project to disturb, damage, or adversely effect those areas, and mitigative actions to prevent potential impacts
- A description of stream crossings potentially necessitated by the proposed project, permit requirements (ARAP, TVA, US Army Corps of engineers section 10 and/or 404, etc.), if necessary, and mitigative actions to prevent adverse impacts during stream crossings
- A floodplain map indicating project location, a discussion of whether the proposed project will be below the 100-year flood elevation, and mitigative actions to prevent potential impacts from flooding, if necessary
- A discussion of the potential impacts to residential areas during construction, whether any significant displacement of population would be necessitated, and mitigative actions to prevent the alteration of the character of existing residential neighborhoods

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Environmental Justice Information

- Have any minority or low-income populations been identified within the project area?
- Does the selected alternative present disproportionate risks to the minority or low-income populations identified within the project area?
- Have the minority or low-income populations identified within the project area been provided an opportunity for public participation?
- Do the minority or low-income populations identified within the project area suffer from environmental/health risks that will be exacerbated by the proper construction and operation of the selected alternative?

For more information about the environmental review process, please contact David Shell at (615) 532-0480 or by e-mail at david.shell@state.tn.us.